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Doc Code: Computer

pages of specification

and/or sequence listing

and/or table

Doc Code: Artifact

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Doc Code: Artifact

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Artifact Type Code: P

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Artifact Type Code: S

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Artifact Type Code: U

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07/775418

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*Has received an application for a patent
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termined that a patent on the invention
shall be granted under the law.*

Therefore, this

United States Patent

*Grants to the person or persons having
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ject to the payment of maintenance fees
as provided by law.*

Jeffery M. Samuel

Acting Commissioner of Patents and Trademarks

Priscilla A. Fuller

Attest



United States Patent [19]
McMaster et al.

[11] Patent Number: 4,883,527
[45] Date of Patent: Nov. 28, 1989

[54] GLASS SHEET BENDING AND TEMPERING
APPARATUS

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[21] Appl. No.: 249,718

[22] Filed: Sep. 27, 1988

Related U.S. Application Data

[63] Continuation of Ser. No. 83,675, Aug. 7, 1987, Pat. No.
4,822,398.

[51] Int. Cl.⁴ C03B 23/03
[52] U.S. Cl. 65/273; 65/104;
65/106; 65/289; 65/290; 65/348; 65/351
[58] Field of Search 65/104, 106, 107, 273,
65/289, 290, 348, 35

[56]

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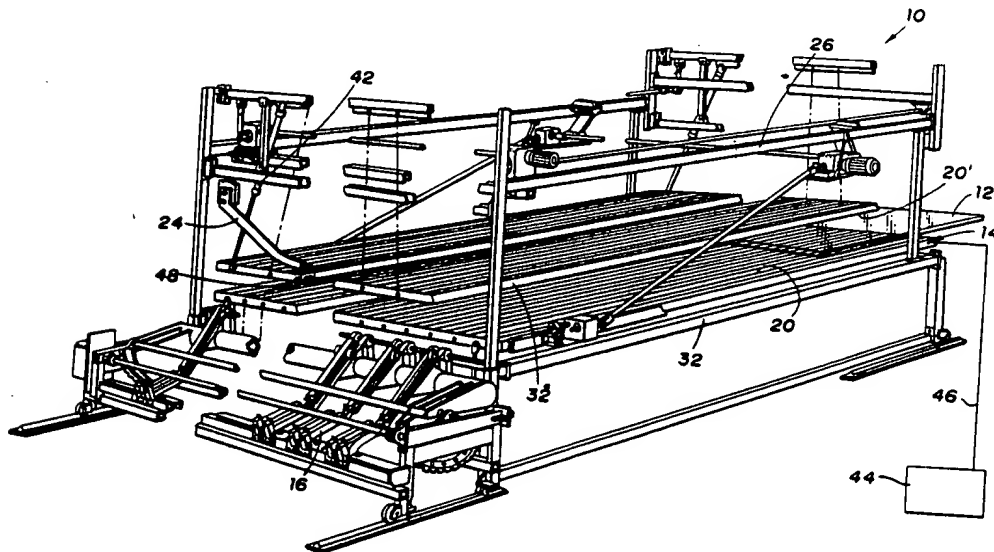
Primary Examiner—Arthur Kellogg
Attorney, Agent, or Firm—Brooks & Kushman

[57]

ABSTRACT

A glass bending and tempering apparatus (10) is disclosed as including a first platen (14) for receiving a heated glass sheet (12) to be bent. The first platen (14) is deformable and includes an actuator (16) for deforming platen (14) from a planar shape to a bent shape. A second platen (22) is mounted above lower platen (14) for bending and quenching glass sheet (12) therebetween the platens. A template (24) is located on the other side of the second platen (22) away from glass sheet (12). Second platen (22) is pressed against template (24) as first platen (14) is deformed from the planar shape to the bent shape to bend the heated glass sheet thereagainst second platen (22), the second platen (22) conforming to template (24). Quenching gas is supplied by both platens (14,22) through quench openings (18) that move with the platens (14,22) to temper the bent glass sheet between the platens.

16 Claims, 6 Drawing Sheets



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